

Policy on Interdisciplinary Science and Research (ISR)

Northern Technical University (NTU)



1. Executive Summary

Northern Technical University recognizes that the complexity of contemporary global challenges requires the integration of diverse academic disciplines. This policy establishes a formal framework to institutionalize Interdisciplinary Science and Research (ISR), moving beyond traditional academic silos toward a synergistic ecosystem that promotes innovation, enhances research impact, and elevates the University's international standing.

2. Policy Objectives

- Academic Integration: To bridge the gap between engineering, health sciences, and administrative disciplines.
- Research Excellence: To increase the quality and quantity of high-impact publications within Scopus and Clarivate analytics.
- Societal Impact: To produce research outcomes that address multifaceted industrial and community challenges through cross-disciplinary expertise.

3. Strategic Interdisciplinary Domains

NTU prioritizes ISR initiatives that facilitate synergy between disparate faculties, including but not limited to:

- Engineering & Health Sciences: Fusion of technical modeling and clinical applications (e.g., Medical Instrumentation, Biomedical Engineering).
- Engineering & Administrative Governance: Applying managerial frameworks and economic optimization to technical and industrial systems.
- Technology & Environmental Sustainability: Interdisciplinary approaches to renewable energy, smart cities, and green technology.

4. Operational Metrics (Performance Indicators)

To ensure the efficacy of this policy, the University adopts two primary quantitative indices, managed and tracked via the Institutional Publication Portal:

4.1. Joint Supervision Index (JSI)

- Definition: The percentage of postgraduate theses formally co-supervised by faculty members from at least two different university faculties or distinct academic domains.
- Requirement: The research must demonstrate a methodology that necessitates expertise from both disciplines (e.g., a technical engineering solution paired with an administrative feasibility study).



4.2. Joint Publication Index (JPI)

- Definition: The count and impact factor of research outputs co-authored by researchers from different university departments or faculties.
- Measurement: This index evaluates institutional collaboration and is used as a benchmark for internal research synergy and global ranking participation.

5. Incentives and Institutional Support

NTU shall provide the following support mechanisms for faculty and students engaged in ISR:

- Preferential Funding: Priority allocation of internal research grants to projects involving cross-faculty collaboration.
- Academic Credit: Enhanced weighting in annual performance appraisals and promotion criteria for high-performing ISR contributors.
- Resource Mobility: Guaranteed cross-faculty access to specialized laboratories and technical infrastructure for approved interdisciplinary projects.

6. Governance and Oversight

The Office of the Assistant President for Scientific Affairs shall oversee the implementation of this policy. An annual ISR Progress Report will be submitted to the University Council to assess the growth of the JSI and JPI indices and to refine strategic goals accordingly.